


<b>Prüfbericht-Nr.:</b> Test Report No.:	<b>50357921 001</b>	<b>Auftrags-Nr.:</b> Order No.:	<b>170250187</b>	<b>Seite 1 von 12</b> Page 1 of 12
<b>Kunden-Referenz-Nr.:</b> Client Reference No.:	N/A	<b>Auftragsdatum:</b> Order date:	2020-08-26	
<b>Auftraggeber:</b> Client:	<b>AOK Industrial Company Limited</b> 1# Building, Sans Souci Technology Industrial Park, Shajin street, Shenzhen city, Guangdong Provice, China			
<b>Prüfgegenstand:</b> Test item:	AOK-WIL Street Light			
<b>Bezeichnung / Typ-Nr.:</b> Identification / Type No.:	AOK-40WIL Class II			
<b>Auftrags-Inhalt:</b> Order content:	Type examination			
<b>Prüfgrundlage:</b> Test specification:	IES LM-79-08 & client's special requirements			
<b>Wareneingangsdatum:</b> Date of receipt:	2020-08-26	<b>Detaillierte Fotodokumentation</b> siehe Anlage zu diesem Bericht  <b>Detailed photo documentation</b> see appendix to this report		
<b>Prüfmuster-Nr.:</b> Test sample No.:	001#			
<b>Prüfzeitraum:</b> Testing period:	2020-08-26 to 2020-08-27			
<b>Ort der Prüfung:</b> Place of testing:	See page 2			
<b>Prüflaboratorium:</b> Testing laboratory:	TUV Rheinland (Guangdong) Ltd.			
<b>Prüfergebnis*:</b> Test result*:	See following pages			
<b>geprüft von / tested by:</b>		<b>kontrolliert von / reviewed by:</b>		
2020-08-27 Dere Zhang / Project Engineer 		2020-08-27 Mars Yan / Reviewer		
<b>Datum</b> Date	<b>Name / Stellung</b> Name / Position	<b>Unterschrift</b> Signature	<b>Datum</b> Date	<b>Name / Stellung</b> Name / Position
<b>Sonstiges / Others:</b>  N/A				
<b>Zustand des Prüfgegenstandes bei Anlieferung:</b> Condition of the test item at delivery:		<b>Prüfmuster vollständig und unbeschädigt</b> Test item complete and undamaged		
* Legende: 1 = sehr gut      2 = gut      3 = befriedigend      4 = ausreichend      5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n)      F(ail) = entspricht nicht o.g. Prüfgrundlage(n)      N/A = nicht anwendbar      N/T = nicht getestet Legend: 1 = very good      2 = good      3 = satisfactory      4 = sufficient      5 = poor P(ass) = passed a.m. test specification(s)      F(ail) = failed a.m. test specification(s)      N/A = not applicable      N/T = not tested				
<b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b> This test report only relates to the a. M. Test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.				

**Copy of marking plate:**

N/A

**Test item**

Description..... : AOK-WIL Street Light

Trademark ..... : N/A

Model and/or type reference ..... : AOK-40WIL Class II

Manufacturer..... : Same as client

Factory..... : Same as client

Rating(s)..... : 220-240Vac, 50/60Hz, 40W, 4000K

**Test case verdicts**

Test case does not apply to the test object..... N/A

Test item does meet the requirement ..... P(ass)

Test item does not meet the requirement ..... F(ail)

**Testing**

Date of receipt of test item ..... See cover page

Date(s) of performance of test..... See cover page

**General remarks:**

This report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item(s) tested.

“(see remark #)” refers to a remark appended to the report.

“(see Annex #)” refers to an annex appended to the report.

Throughout this report a point is used as the decimal separator.

List of test equipment must be kept on file and available for review.

**Summary of testing:**

1. As per client's special requirement, test was conducted under 230Vac, 50Hz, other tests or conditions were not considered in this report.

**LED specification:**

Model	Manufacturer	Size (mm)	V <sub>F</sub> (V)	I <sub>F</sub> (mA)	CCT (K)	View angle (°)
LUXEON 3030 2D Line	LUMILEDS	3.00x3.00x0.52	5.8-6.6	120	4000	116

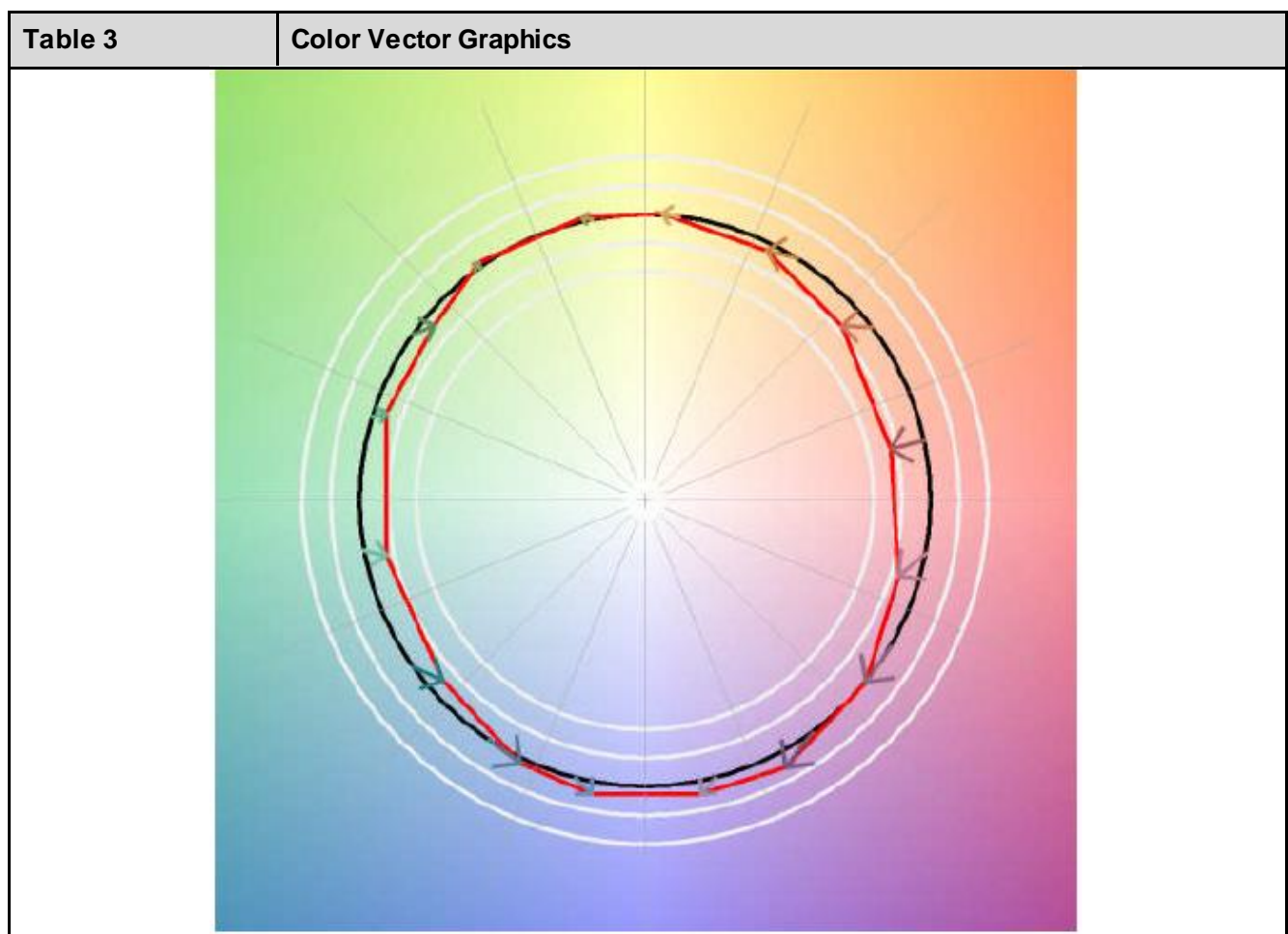
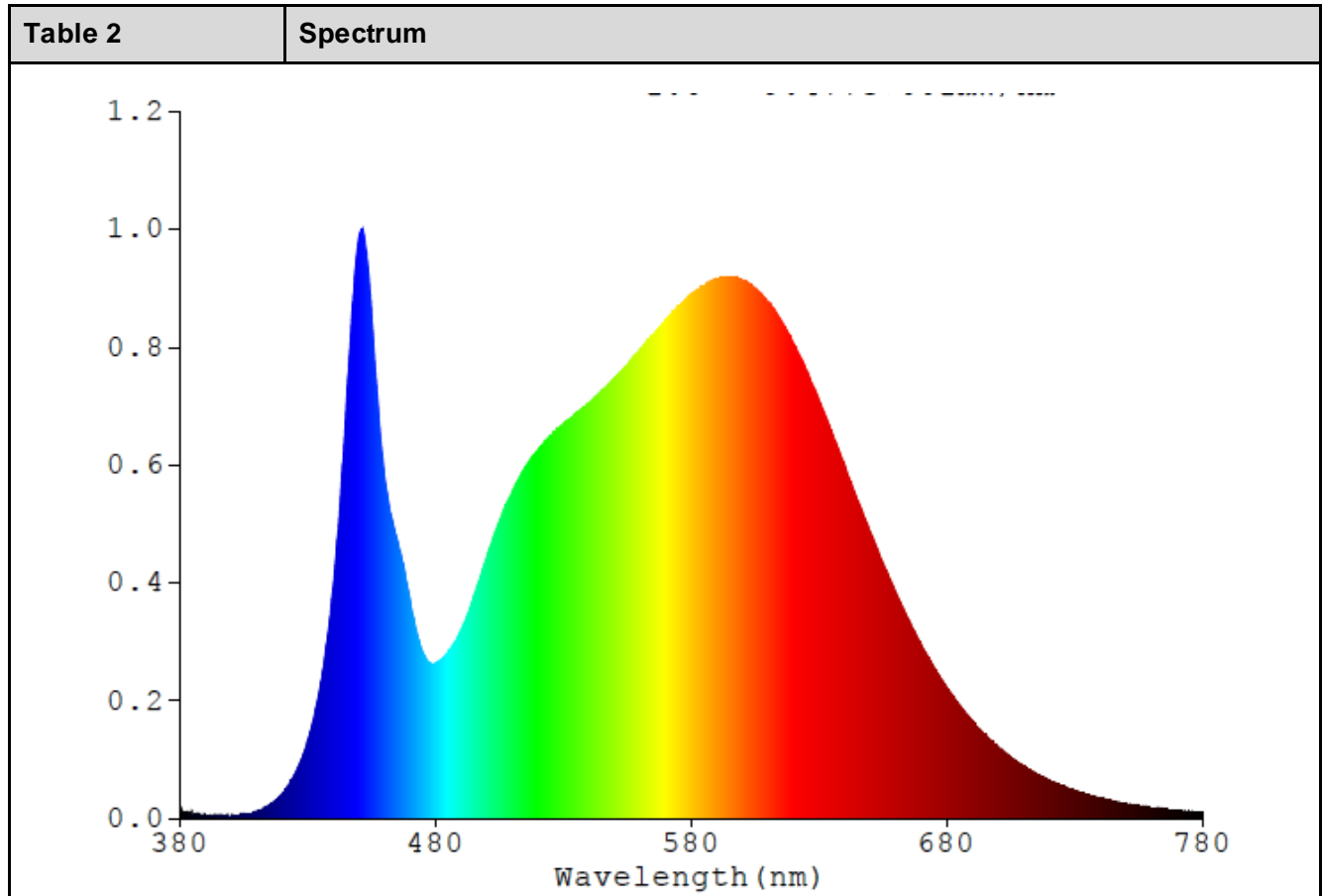
**Test location:**

Standard-Tech Testing Services Co., Ltd.

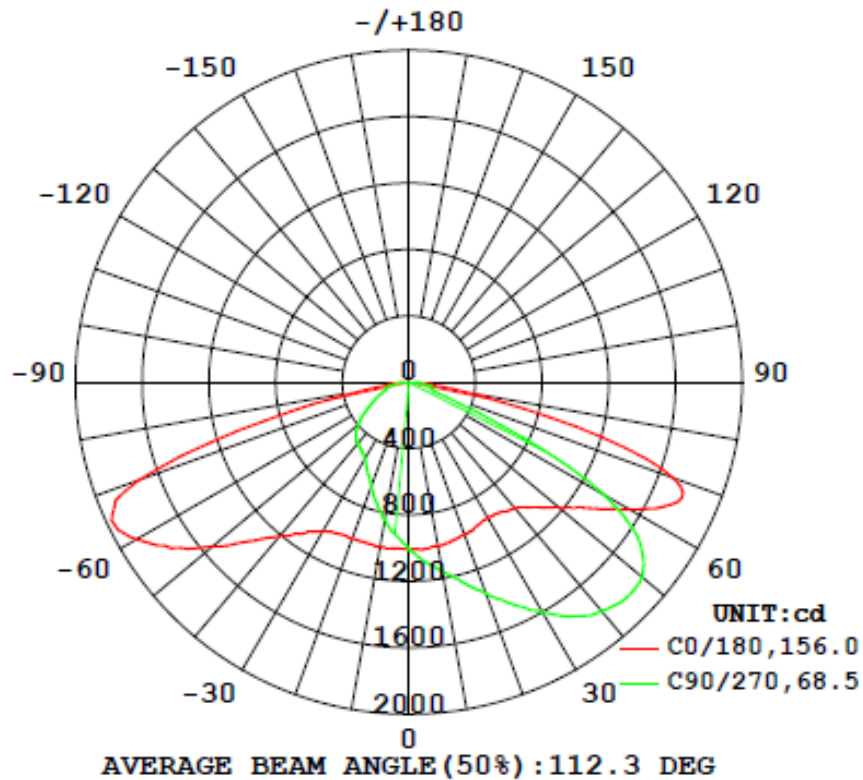
No.6 Guanhong Road, Guangzhou Science City, Guangzhou 510663, China

2.0	Ambient Conditions		P
2.1	General		P
2.2	Air Temperature	25°C±1°C	P
2.3	Thermal Condition for Mounting SSL Products		P
2.4	Air Movement		P
3.0	Power Supply Characteristics		P
3.1	Waveshape of AC power supply	<3%	P
3.2	Voltage regulation	Within ±0.2% under load	P
4.0	Seasoning of SSL Product		N/A
	No seasoning of SSL product	Tested with no seasoning	N/A
5.0	Stabilization of SSL Product		P
	SSL product has sufficiently stabilized before measurement	150 minutes	P
6.0	Operation Orientation		P
	SSL product shall be stabilized and measured in intended operating orientation	As normal use	P
7.0	Electrical Settings		P
	SSL product shall be operated at rated voltage	230Vac, 50Hz	P
	SSL product with dimming capability are tested at maximum input power condition		N/A
	SSL product with different modes are measured in all relevant modes		N/A
8.0	Electrical Instrumentations		P
8.1	Circuits		P
8.2	Uncertainties		P
9.0	Test methods for Total Luminous Flux measurement		P
9.1	Integrating sphere with a spectroradiometer (Sphere-spectroradiometer system)		P
9.2	Integrating sphere with a photometer head (Sphere-photometer system)		N/A
9.3	Goniophotometer		P
10.0	Luminous Intensity Distribution		P
11.0	Luminous Efficacy		P
	Calculation	See table 1	P
12.0	Test Methods for Color Characteristics of SSL Products		N/A
	Measurements	See table 1	N/A

Table 1		Test Data	
Test item	Measured Value		
	Integrating Sphere	Goniophotometer	
<b>Photometric Results</b>			
Total Luminous Flux (lm)	--	5071	
Luminous Efficacy (lm/W)	--	126.74	
Correlated Color Temperature (CCT, K)	3960	--	
Color Rendering Index (R <sub>a</sub> )	83.2	--	
R <sub>9</sub>	10	--	
R <sub>g</sub>	95	--	
R <sub>f</sub>	85	--	
R <sub>cs,h1</sub> (%)	-12	--	
SCDM (F4000)	1.8	--	
DUV	0.0023	--	
Chromaticity (Chroma x / Chroma y)	0.3839 / 0.3838	--	
Imax (cd)	--	2257	
Average Beam Angle (50%)	--	--	
Zonal Flux (0-60°)	--	69.7%	
Zonal Flux (60-90°)	--	30.3%	
Zonal Flux (80-90°)	--	1.1%	
Zonal Flux (90-180°)	--	0%	
Spacing Criteria (C/y)	--	22.5° / 1°	
Roadway Class	--	Type III, Short	
Goniophotometer Type	--	Type C	
<b>Electrical Results</b>			
Input Voltage (V)	--	230	
Input Frequency (Hz)	--	50	
Input Current (A)	--	0.1811	
Input Power (W)	--	40.01	
Power Factor	--	0.9606	
THDi (%)	--	11.97	
<b>Additional Information</b>			
Stabilization Time (Light output and electrical power, Minutes)	More than 150min	More than 150min	
Sphere Geometry Configuration	4π	--	
Ambient Temperature (°C) / R.H. (%):	24.6 / 65.0	25.0 / 43.2	
<b>Note:</b> - The sample is placed inside the integrating sphere or goniophotometer and power by a regulated supply. Stability is achieved when the variation of 3 readings of light output and electrical power over a period of 30 minutes, taken 15 minutes apart, is less than 0.5%.			



**Table 4** Luminous Distribution Diagram



**Table 5** Zonal Flux Diagram

◻	C0	C45	C90	C135	C180	C225	C270	C315	◻	◻ zone	◻ total	%lum, lamp
10	1006	1121	1158	1123	1007	900.8	845.9	901.8	0- 10	96.14	96.14	1.9,1.9
20	975.6	1227	1355	1256	1003	778.9	665.0	764.0	10- 20	284.5	380.7	7.51,7.51
30	943.8	1363	1600	1448	1038	654.3	530.1	628.0	20- 30	468.3	848.9	16.7,16.7
40	991.5	1575	1800	1755	1212	566.0	478.3	518.7	30- 40	671.9	1521	30,30
50	1175	1841	1825	2054	1535	483.9	398.1	452.1	40- 50	910.1	2431	47.9,47.9
60	1529	2020	1341	2115	1892	348.3	263.3	331.3	50- 60	1104	3535	69.7,69.7
70	1684	1555	165.6	1480	1727	182.7	160.6	182.1	60- 70	1045	4580	90.3,90.3
80	339.5	92.23	112.7	100.6	266.6	76.68	86.09	78.74	70- 80	437.1	5017	98.9,98.9
90	0	0	0	0	0	0	0	0	80- 90	53.96	5071	100,100
100	0	0	0	0	0	0	0	0	90-100	0	5071	100,100
110	0	0	0	0	0	0	0	0	100-110	0	5071	100,100
120	0	0	0	0	0	0	0	0	110-120	0	5071	100,100
130	0	0	0	0	0	0	0	0	120-130	0	5071	100,100
140	0	0	0	0	0	0	0	0	130-140	0	5071	100,100
150	0	0	0	0	0	0	0	0	140-150	0	5071	100,100
160	0	0	0	0	0	0	0	0	150-160	0	5071	100,100
170	0	0	0	0	0	0	0	0	160-170	0	5071	100,100
180	0	0	0	0	0	0	0	0	170-180	0	5071	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

## LCS Table

LCS TABLE		
BUG RATING	B1 - U0 - G1	
<b>FORWARD LIGHT</b>	LUMENS	LUMENS %
LOW(0-30):	514.7	10.1%
MEDIUM(30-60):	1,955.3	38.5%
HIGH(60-80):	1,064.0	21%
VERY HIGH(80-90):	31.1	0.6%
<b>BACK LIGHT</b>		
LOW(0-30):	334.2	6.6%
MEDIUM(30-60):	731.3	14.4%
HIGH(60-80):	419.9	8.3%
VERY HIGH(80-90):	23.0	0.5%
<b>UPLIGHT</b>		
LOW(90-100):	0.000	0%
HIGH(100-180):	0.000	0%
<b>TRAPPED LIGHT:</b>	0.000	0%

### Candela Table (Type C)

[illegible]



Table 8		Equipment List		
Equipment Name	Equipment ID	Model	Manufacturer	Calibration due date
Spectroradiometer	ST-R-327	HAAS-2000	EVERFINE	2021-06-29
Standard lamp	ST-R-332	D204	EVERFINE	2021-06-27
Power meter	ST-R-333	PF2010A	EVERFINE	2021-06-29
DC power source	ST-R-335	WY305	EVERFINE	2021-06-29
AC power source	ST-R-349	DPS1010	EVERFINE	2021-06-29
Standard lamp	ST-R-343	D204C	EVERFINE	2021-06-27
Temperature sensor	ST-R-405	--	EVERFINE	2021-01-22
AC power source	ST-R-357	DPS1010	EVERFINE	2021-06-29
Power meter	ST-R-358	PF2010	EVERFINE	2021-06-29
Goniophotometer	ST-R-355	GO-R5000	EVERFINE	--
Standard lamp	ST-R-359	D908S	EVERFINE	2021-06-27
Temperature/humidity datalogger	ST-R-354	GRL-1-L	EVERFINE	2021-06-29



## Appendix: Product Photos

Picture 1: Over view



Picture 2: Back view



Picture 3: Internal view



Picture 4: LED driver view [Model: Xi FP 75W 0.3-1.0A SNLDAE 230V S240 sXt]





Picture 5: LED module view



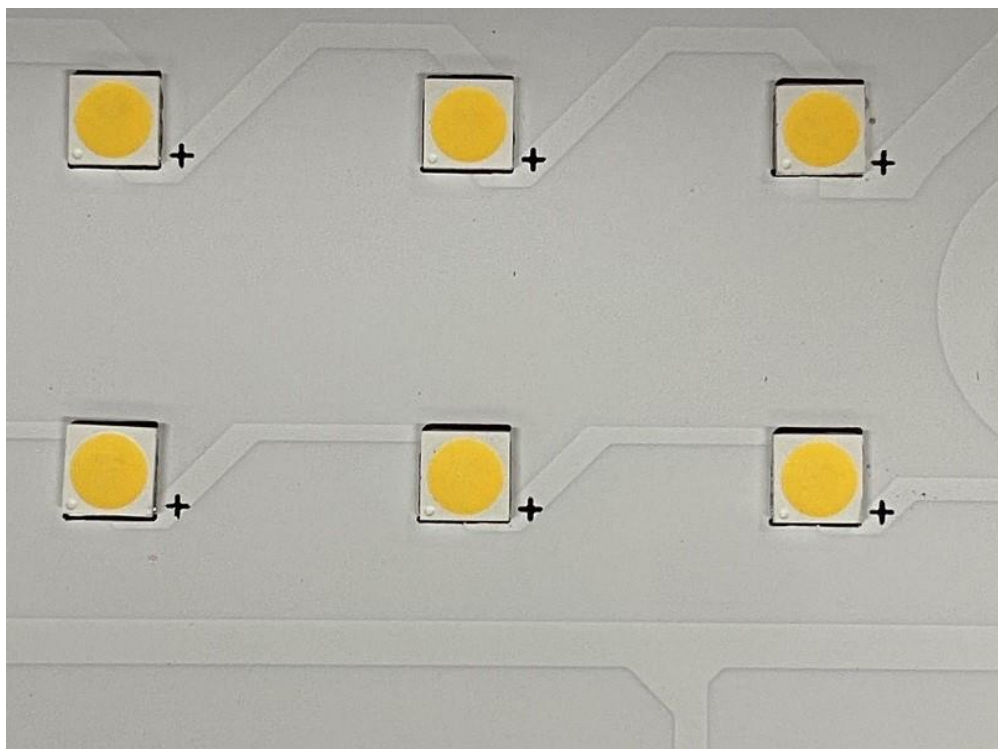
Picture 6: LED module view



Picture 7: LED lens view



Picture 8: LED view



---End of Report---